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From Deprivation to Distribution: Is Global Poverty Becoming A Matter of National Inequality?

Andy Sumner
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From Deprivation to Distribution:

Is Global Poverty Becoming A Matter of National Inequality?

Andy Sumner

Summary

This paper asks the following question: does the shift in global poverty towards middle-income countries (MICs) mean that global poverty is becoming a matter of national inequality? This paper argues that many of the world's extreme poor already live in countries where the total cost of ending extreme poverty is not prohibitively high as a percentage of GDP. And in the not-too-distant future, most of the world's poor will live in countries that do have the domestic financial scope to end at least extreme poverty and, in time, moderate poverty. This will likely pave the way for addressing poverty reduction as primarily a domestic issue rather than primarily an aid and international issue; and thus a (re)framing of poverty as a matter of national distribution and national social contracts and political settlements between elites, middle classes and the poor.

Keywords: poverty; inequality; distribution; low-income countries; middle-income countries.

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Acronyms

FCAS	Fragile and Conflict-Affected States
GDP	Gross Domestic Product
GNI	Gross National Income
HIC	High-Income Country
IDA	International Development Association
IMF	International Monetary Fund
LDC	Least Developed Country
LIC	Low-Income Country
LMIC	Lower Middle-Income Country
MTR	Marginal Tax Rate
MIC	Middle-Income Country
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PC	Per Capita
PINCI	Pakistan, India, Nigeria, China And Indonesia
PPP	Purchasing Power Parity
UMIC	Upper Middle-Income Country

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Introduction

This paper asks the following question: Does the shift in global poverty towards middle-income countries (MICs) mean that global poverty is becoming a matter of national inequality? This paper argues that many of the world's extreme poor already live in countries where the total cost of ending extreme poverty is not prohibitively high as a percentage of GDP. And in the not-too-distant future, most of the world's poor will live in countries that do have the domestic financial scope to end at least extreme poverty.¹

The paper is structured as follows: Section 1 discusses concepts of absolute and relative 'poor' countries to assess if MICs are 'poor' countries and if so, in what sense. Section 2 focuses on the cost of ending poverty in middle-income countries and section 3 on trends in inequality, the number of 'non-poor' people, and presents a scenarios-based approach to the evolution of global poverty to 2020 and 2030. Section 4 concludes.

1 Absolute and relative 'poor' countries

The majority of the world's poor, by income and multi-dimensional poverty measures, live in countries classified by the World Bank as middle-income countries (Alkire *et al.* 2011; Chandy and Gertz 2011; Glassman *et al.* 2011; Kanbur and Sumner 2011a, 2011b; Koch 2011; Sumner 2010, 2012a; 2012b). Such patterns matter beyond the thresholds of low-income countries and middle-income countries (LICs/MICs) set by the World Bank, because they reflect a pattern of rising average incomes and although the thresholds do not mean a sudden change in countries when a line is crossed in per capita income, substantially higher levels of average per capita income imply substantially more domestic resources available for poverty reduction.

If most of the world's poor live in (lower) MICs, one question that follows is: to what extent are these 'poor' countries and/or 'poor' countries in relation to what? Dudley Seers (1963) provided the seminal discussion of developed country characteristics, and their divergence from the characteristics of developing countries. On this basis he could justify calling the developed, or industrialised, countries 'a special case' of 'a few countries with highly unusual, not to say peculiar, characteristics' (p80). This is in contrast to developing countries, for whom,

[t]he typical case is a largely unindustrialised economy, the foreign trade of which consists essentially in selling primary products for manufactures. There are about 100 identifiable economies of this sort, covering the great majority of the world's population (p80).

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Table 1.1 Conceptualising ‘poor’ countries: indicators and indicative levels

	Potential indicators	Typology of Countries		
		Absolute Poverty	Relative Poverty	Non-Poor
Absolute measures (threshold based)	Average incomes compared to the international poverty lines (\$1.25 and \$2 per capita/day)	Average income in GDP PPP pc less than international poverty lines (either \$1.25 or \$2 per capita/day)	Average income in GDP PPP pc higher than international poverty lines but less than \$10/day (at which the risk of \$4 poverty drastically declines*) or \$13/day (the poverty line in USA**)	Average income above \$10 or \$13/day per capita
	The overall ‘burden’ of poverty meaning the total poverty gap as a percentage of GDP (c.f. Kanbur and Mukherjee 2007)	Cost of ending poverty greater than 2% of GDP (which is average military spending in LICs and MICs)	Cost of ending poverty between 1–2% of GDP	Cost of ending poverty less than 1% of GDP
	Structural indicators (c.f. Seers 1963) (e.g. aid dependency, forex reserves, GDP in agriculture or export dependency on primary sectors)	Most or all of the following characteristics: Aid dependency above 10% of GNI; forex reserves of less than 3 months; more than 50% of GDP in agriculture; more than 50% of exports in primary sector	Most or all of the following characteristics: Aid dependency of 1–10% GNI; forex reserves of 3–6 months; 25–50% GDP in agriculture; 25–50% of exports in primary sector	Most or all of the following characteristics: Aid dependency below 1% of GNI; forex reserves of 6 months plus; less than 25% of GDP in agriculture; less than 25% of exports in primary sector
Relative measures (relative to other countries)	Per capita income relative to per capita income in LICs (or LDCs, FCAS or Q1 GDP pc PPP)	Per capita income less than average per capita income in current group of LICs (or other groups)	Per capita income less than average per capita income in current group of MICs	Per capita income comparable to OECD high-income countries
	Levels of extreme poverty (% of population) compared to LICs (or LDCs, FCAS or Q1 GDP pc PPP)	Levels of extreme poverty (% of population) more than average for current group of LICs (or other groups)	Levels of extreme poverty (% of population) more than average for current group of MICs	Levels of extreme poverty (% of population) comparable to OECD high-income countries
	Structural indicators (c.f. Seers 1963) (e.g. aid dependency, forex reserves, GDP in agriculture or export dependency on primary sectors), relative to LICs (or LDCs, FCAS or Q1 GDP pc PPP)	Structural indicators comparable to current group of LICs (or other groups)	Structural indicators comparable to current group of MICs	Structural indicators comparable to OECD high-income countries

Source: Author and those listed. Notes: * = source is López-Calva and Ortiz-Juarez (2011). ** = source is Ravallion (2010). FCAS = 45 Fragile and Conflict Affected States of OECD (2011b); LDC = Least Developed Countries Group; Q1 GDP pc PPP = poorest quartile of countries by GDP pc PPP.

Seers (1963: 81–83) identified the characteristic features of the ‘special case’ or advanced economies in ‘note form’ including, for example, factors of production (e.g. literacy and the mobility of labour), sectors of the economy (e.g. manufacturing much larger than either agriculture or mining), public finance (e.g. reliance on direct taxes), households (e.g. very few below subsistence level and a moderately equal distribution of income), savings and investment (e.g. well-developed financial intermediaries), and ‘dynamic influences’ (e.g. slow population growth and high urbanisation).

One could conceptualise 'poor' countries in various ways. Table 1.1 sketches a set of absolute measures (meaning thresholds based) and relative measures (meaning measures relative to other countries) of absolute poverty and relative poverty at country level (and potential indicative levels for further investigation).

In absolute terms (meaning thresholds) one might conceptualise 'poor' countries in terms of absolute poverty, relative poverty or non-poor by:

- (i) by average incomes compared to the international poverty lines (\$1.25 and \$2 per capita/day), or
- (ii) by the overall 'burden' of poverty meaning the total poverty gap as a percentage of GDP, or
- (iii) by structural indicators.

One could also think of 'poor' countries in relative terms (relative to other countries). For example,

- (i) by per capita income relative to per capita income in LICs (or LDCs or another grouping), or
- (ii) by overall levels of extreme poverty (per cent of population) compared to LICs; or
- (iii) by various structural indicators (e.g. aid dependency, forex reserves, GDP in agriculture or export dependency on primary sectors), relative to LICs; or
- (iv) by such structural indicators relative to high-income countries (HICs) of the OECD.

Analysis of the correlations in LICs and LMICs between GDP PPP per capita and structural indicators (see tables in appendix 2) lends support to the case for further consideration of such indicators.

Correlations are evident to varying degrees for various measures suggested by Seers. For example, GDP pc PPP and (a) net ODA/gross capital formation; (b) Net ODA/GNI; (c) agricultural exports as a percent of exports; (d) agriculture value added/GDP; (e) urbanization and (f) gross domestic savings/GDP.

LICs and LMICs can also be compared with three other country groupings related to "poor" countries: the group of 45 fragile and conflict affected states (as listed in OECD, 2011b); the UN group of 48 Least Developed Countries and also the group of 45 countries that are in the poorest quartile of all countries by GDP PPP per capita (see Appendix 1, Table A3 for population coverage by indicator and group).

In absolute terms, the group averages for LMICs suggest average per capita PPP income at almost five times the *higher* international poverty line of \$2. In relative terms, the average for the LMIC group is considerably higher than the average income of the LIC group – which itself is barely above the higher international poverty line. Average per capita income in the LMIC group is typically three times the level of LICs and, notably, GDP per capita by PPP is approaching \$10 per person/day (see Table 1.2 below).

Overall, levels of extreme poverty as a percentage of population are lower in the LMIC group average compared to the LIC average (see Table 1.2 below), though still surprisingly high in LMICs despite higher average per capita incomes as noted (see also discussion in Sumner 2012b). For comparison, data for Fragile and Conflict-Affected States (FCAS), for Least Developed Countries (LDCs) and for the poorest quartile of all countries by GDP per capita PPP (Q1) see Tables 1.2, 1.3 and 1.4.

This discussion is – evidently – overly focused on economic development. One could pursue further dimensions of development such as governance and sustainability amongst others (see for discussion Gentilini and Sumner, 2012).

Table 1.2 Estimates of average income per capita, 2009 (population weighted)

	World Bank classifications			Other classifications		
	LICs (35)	LMICs (56)	LMICs minus India	FCAS (45)	LDC (48)	Q1 GDP pc PPP (45)
GNI per capita/day (Atlas, current \$)	1.3	3.9	4.6	2.7	5.8	2.7
GNI pc/day (PPP, current \$)	3.1	9.1	9.3	5.1	3.8	4.0
GDP pc/day (PPP, 2005 constant \$)	2.9	8.5	8.8	4.7	3.5	3.6
Poverty (% pop., \$1.25, 2008)	48.5	30.2	23.4	39.9	46.1	48.1

Source: Data processed from WDI (World Bank, 2011b) and PovcalNet (World Bank, 2012). Note: Some indicators have weaker coverage for FCAS, LDCs and Q1 countries - see annex for data coverage. FCAS = 45 Fragile and Conflict Affected States of OECD (2011b); LDC = Least Developed Countries Group; Q1 GDP pc PPP = poorest quartile of countries by GDP per capita PPP.

Table 1.3 Structural indicators, 2009 (population weighted)

	World Bank classifications			Other classifications		
	LICs (35)	LMICs (56)	LMICs minus India	FCAS (45)	LDC (48)	Q1 GDP pc PPP (45)
Net ODA as % of GNI *	12.6	1.0	1.8	7.1	11.1	9.6
Net ODA/Gross capital formation *	53.1	3.5	6.3	32.8	41.2	36.2
Total reserves in months of imports	4.5	8.0	6.3	3.8	3.4	4.1
GDP in agriculture (%)	30.8	17.3	16.8	20.2	26.6	23.0
Urbanisation (% population)	27.9	39.2	47.6	34.9	28.8	32.4
Gross domestic savings as % GDP	9.1	24.4	17.3	8.0	10.0	8.1
Agricultural raw materials as % exports *	9.7	1.9	2.6	3.8	4.4	4.6
Ores and metal as % exports *	7.4	5.9	5.5	2.0	5.4	4.3

Sources: Data processed from WDI (World Bank, 2011b). Note: * = A high degree of dispersion within country groupings suggests some caution is required in interpretation of these indicators. Some indicators have weaker coverage for FCAS, LDCs and Q1 countries - see annex for data coverage. FCAS = 45 Fragile and Conflict Affected States of OECD (2011b); LDC = Least Developed Countries Group; Q1 GDP pc PPP = poorest quartile of countries by GDP per capita PPP.

If one considers the kind of structural indicators Seers identified in the *Limitations of the Special Case*, one again finds that LMICs are unequivocally better off than LICs (see Tables 1.2 and 1.3). Indeed, one might argue that LMICs are not 'poor' countries by the LMIC group averages, with an aid/GNI of 1 per cent GDP, and an aid/gross capital formation of just 3.5 per cent; compared to LICs with an aid/GNI of 12.6 per cent, and an aid/gross capital formation of 53.1 per cent. However, some caution is again required, as the degree of dispersion is significant in the country groups.

Indicators of GDP in agriculture, savings, export dependency on agriculture and urbanisation suggests that the LMIC group is, in general, qualitatively different to the LIC group. For example, GDP in agriculture is drastically lower in the LMIC group compared to the LIC group, and urbanisation much higher (almost 50 per cent when India is removed).

Overall, it is evident that LMICs have higher standards of living than LICs, and are far less aid dependent. The average, population weighted GNI per capita – by Atlas or PPP – in LMICs is three times that of LICs. However, it is worth remembering that the LMIC group average for GDP per capita PPP is still only 10 per cent of the per capita PPP income of OECD HICs, and in LICs just 3 per cent (see Table 1.4).

Table 1.4 Economic indicators as % OECD HICs, 2009 (population weighted)

	World Bank classifications			Other classifications			HICs
	LICs (35)	LMICs (56)	LMICs minus India	FCAS (45)	LDC (48)	Q1 GDP pc PPP (45)	
GNI per capita/day (Atlas, current \$)	1.2	3.7	4.3	2.6	5.5	2.5	100.0
GNI pc/day (PPP, current \$)	3.1	9.1	9.2	5.2	3.9	4.0	100.0
GDP pc/day (PPP, const. \$)	3.2	9.5	9.8	5.3	4.0	4.1	100.0
Total reserves in months of imports	104.7	186.0	146.5	78.1	69.0	83.5	100.0
GDP in agriculture (%)	2,008.9	1,127.9	1,095.5	1,361.6	1,796.7	1,549.2	100.0
Urbanisation (% population)	36.2	50.9	61.8	45.2	37.3	42.0	100.0
Gross domestic savings as % GDP	50.8	136.3	96.6	43.1	53.7	43.6	100.0
Agricultural raw materials as % exports *	646.7	126.7	173.3	261.0	295.6	309.6	100.0
Ores and metal as % exports *	205.6	163.9	152.8	132.6	366.8	288.8	100.0

Sources: Data processed from WDI (World Bank, 2011b). Note: * = A high degree of dispersion within country groupings suggests some caution is required in interpretation of these indicators. Some indicators have weaker coverage for FCAS, LDCs and Q1 countries - see annex for data coverage. FCAS = 45 Fragile and Conflict Affected States of OECD (2011b); LDC = Least Developed Countries Group; Q1 GDP pc PPP = poorest quartile of countries by GDP per capita PPP.

2 The relative cost of ending poverty

Even if most of the world's poor live in countries that are not the poorest countries, nor absolutely 'poor' countries, nor aid-dependent, the cost of ending poverty may be of a size relative to GDP that means it is unlikely poverty can be fully addressed via domestic resources. In short, one could consider whether countries are 'poor' relative to the capacity to end poverty (see discussion in Kanbur and Mukherjee 2007), expressed as the cost of ending poverty as percentage of GDP. This then estimates the 'transfer' necessary as a percentage of GDP from the non-poor to the poor to end poverty.

Using such an approach, absolute and relative poor countries might be estimated by a threshold – with absolute poor countries needing perhaps more than 2 per cent of GDP to close the poverty gap, and relative poor countries requiring 1–2 per cent on the basis that the average for military spending is, respectively, 1.6 per cent and 2.2 per cent in the LIC and LMIC groupings (estimated from data in WDI, World Bank, 2011b), where most of the world's poor live and military spending is a crude proxy for alternative uses of resources.

Tables 2.1 to 2.4 present data on the total poverty gap as a percentage of GDP. Data is presented in PPP constant 2005 international dollars to be comparable with later estimates on the poverty gap in 2020 and 2030.

Table 2.1 Estimates of the total poverty gap as % GDP, PPP\$ constant 2005 international \$) by \$1.25 and \$2 poverty line in 2008/9

	Total poverty gap as % GDP PPP		Distribution of world poverty (%)	
	\$1.25	\$2	\$1.25	\$2
LICs	8.4	25.4	25.7	20.6
LMICs	1.3	5.5	57.7	59.2
UMICs	0.2	0.6	16.7	20.2
	-	-		
East Asia and Pacific	0.3	1.5	21.5	26.1
Eastern Europe and Central Asia	0.0	0.0	0.2	0.4
Latin American and the Caribbean	0.2	0.4	2.9	2.9
Middle East and North Africa	0.0	0.4	0.7	1.9
South Asia	1.5	7.5	44.3	45.6
Sub-Saharan Africa	4.8	13.0	30.5	23.2

Source: Data processed from PovcalNet (World Bank, 2012) and WDI (World Bank, 2011b). Note: Data presented as PPP\$, constant 2005 international \$ rather than current US\$ for comparison with 2020 and 2030 estimates (see below). Poverty gap as % GDP = PG%/100% x \$1.25 per day x 365 x Population.

In the LMICs, the group average for the cost of ending poverty is 1.3 per cent of GDP PPP for \$1.25 poverty, but 5.5 per cent for \$2 poverty (compared to 8.4 per cent and 25.4 per cent respectively for LICs).

Seventeen MICs have a total poverty gap of greater than 1 per cent of GDP (PPP\$, constant 2005 international \$), ranging up to 12.8 per cent in Zambia (See Table 2.2). When the data for the 20 countries with 90 per cent of world poverty are considered, many of the countries which have particularly high costs of ending \$1.25 (and \$2) poverty as a proportion of GDP are LICs, such as Bangladesh, the DRC, Tanzania, Kenya, Uganda, Mozambique and Malawi. That said, MICs like Nigeria, Angola and Nepal in that list of twenty countries also have high costs of ending poverty (see Table 2.3).

Table 2.2 Estimates for MICs with total poverty gap greater than 1% GDP, 2008/9, descending order, \$1.25 poverty line (PPP\$, constant 2005 international \$)

Country	% GDP
1. Zambia	12.8
2. Nigeria	7.6
3. Lesotho	5.7
4. Timor-Leste	4.9
5. Papua New Guinea	3.6
6. Congo, Rep.	2.8
7. Ghana	2.7
8. Angola	2.6
9. Cote d'Ivoire	2.2
10. Lao PDR	2.1
11. Senegal	2.0
12. Swaziland	1.9
13. India	1.5
14. Honduras	1.5
15. Mauritania	1.4
16. Sao Tome and Principe	1.3
17. Sudan *	1.3

Source: Data processed from WDI (World Bank, 2011b) and PovcalNet (World Bank, 2012). Note: Data presented as PPP\$, constant 2005 international \$ rather than current US\$ for comparability with 2020 and 2030 estimates (see below). Poverty gap as % GDP = $PG\%/100\% \times \$1.25 \text{ per day} \times 365 \times \text{Population}$. Note: * = The poverty data listed in PovcalNet (World Bank, 2012) for Sudan in 2008 appears lower than one might expect suggesting caution (see also discussion in Sumner 2012b).

One can go further and estimate 'bands' of the cost of ending \$1.25 poverty and \$2 poverty (see Table 2.4). This splits the world's \$1.25 poor between countries that have a cost of ending poverty of more than 2 per cent of GDP, and countries that have a cost of ending \$1.25 poverty of less than 2 per cent. However, when \$2 poverty is considered, 80 per cent of the world's poor live in countries where the cost of ending \$2 poverty would be more than 3 per cent of GDP.

If most of the world's poor lived in countries with the domestic financial capacity to end at least extreme poverty, extreme poverty would be a matter of national distribution and domestic political economy (for example, via the redistributive preferences of the middle classes and elites). This would imply the need for a fundamental reframing of global poverty as largely a matter of domestic distribution.

Table 2.3 Top 20 poor countries (by number of \$1.25 poor people) with estimated cost of ending poverty as % GDP, 2008/9 (PPP\$, constant 2005 international \$)

	Cost of ending \$1.25 poverty (% GDP) PPP, constant 2005 int'l \$	Cost of ending \$2 poverty (% GDP) PPP, constant 2005 int'l \$
	2008/9	2008/9
India	1.5	7.1
China	0.3	1.3
Nigeria	7.6	18.4
Bangladesh	4.6	19.1
Congo, Dem. Rep.	79.4	165.5
Indonesia	0.6	3.5
Pakistan*	0.7	5.6
Tanzania	10.7	29.2
Philippines	0.6	3.1
Kenya	4.9	15.2
Vietnam	0.7	3.8
Uganda	6.5	21.6
Madagascar	15.5	38.7
Mozambique	14.8	40.4
Ethiopia*	1.6	13.8
Brazil	0.2	0.4
Angola	2.6	5.8
Malawi	18.1	49.7
Nepal	4.0	17.5
Sudan*	1.3	5.9

Source: Data processed from WDI (World Bank, 2011b) and PovcalNet (World Bank, 2012). Note: * = The poverty data listed in PovcalNet (World Bank, 2012) for these countries in 2008 appears lower than one might expect suggesting caution (see also discussion in Sumner, 2012b) and for rates by national poverty lines see Gentilini and Sumner (2012).

Table 2.4 Estimates of the distribution of world poverty by total cost of ending poverty, US\$1.25 and US\$2, 1990 and 2008/9 as a percentage of GDP (PPP\$, constant 2005 international \$)

	US\$1.25		US\$2	
World poverty by	1990	2008/9	1990	2008/9
Countries where the total monetary value of ending poverty is less than 1% of country's GDP	4.0	22.5	1.2	3.7
Countries where the total monetary value of ending poverty is between 1.01% and 2.00% of country's GDP	1.1	29.0	3.3	14.9
Countries where the total monetary value of ending poverty is between 2.01% and 3.00% of country's GDP	0.6	3.0	0.1	0.4
Countries where the total monetary value of ending poverty is more than 3.01% of country's GDP	94.4	45.0	95.3	81.0
<i>Total world poverty</i>	100.0	100.0	100.0	100.0

Sources: Data processed from PovcalNet (World Bank, 2012) and WDI (World Bank, 2011b).

3 National inequality, the ‘emerging middle’ and the (possible) evolving distribution of global poverty

A pertinent question to ask in light of the changes in global poverty towards middle-income countries is what is happening to inequality as average incomes rise? What has happened to inequality in the countries where global poverty is concentrated? How does inequality differ across countries at different levels of per capita income?

The Kuznets Curve is well known in Economics. Simon Kuznets (1955; 1963) argued, in his presidential address to the 1954 American Economic Association and in later articles, a relationship based on a ‘hypothetical numerical exercise’ of which Kuznets noted 5% was empirical information and 95% was speculation. Kuznets postulated an inverted U shape relationship between income and inequality. Kuznets predicted an increase in inequality in the early stages of development and a reduction in inequality in subsequent periods. This was formulated using the Lewis dual economy model.² Kuznets argued that agricultural economies (i.e. developing countries) are initially relatively equal societies with low average income. As the economy develops, the population migrates to non-agricultural sectors, where average incomes are higher, as is inequality. Thus initially, inequality worsens because of the higher proportion of national income in the industrial sector and the higher proportion of profits in national income. The early benefits of economic growth go to those with control over capital and better education. In time, as more of the population move out of the traditional, rural, agricultural sector to the modern, urban, industrial sector and real wages in industry begin to rise, income inequality decreases. What Kuznets implied on the inequality-to-growth linkage was that there is a trade off: inequality is a short-term price worth paying for long-term economic development and that growth would eventually lead mechanistically to poverty reduction through the ‘trickle down’ effect.

There has been a wide range of research pursuing these questions (see review in Sumner and Tiwari, 2009). The sum of which is as follows: Economic growth can impact on inequality through various channels including modification to the distribution of resources across sectors, relative prices, factor rewards and factor endowments. However, there are too many country specifics to make a generalization and the quality and availability of inequality data constrain the ability to make definitive statements.³

If one focuses on the share of GNI to the poorest (the poorest 20% or poorest 40%), the country group averages in LICs, LMICs and UMICs are thought provoking:

The pattern that emerges when one considers the data without India and without China is that the share of GNI to the poorest 20 percent or poorest 40 percent of the population declines as countries get better off and carries on declining.

The share of GNI to the poorest 20 percent or 40 percent of population is highest in LICs and lowest in UMICs if one considers the data without India in the LMICs and without China in the UMICs group (see table 3.1).

² Lewis, however, did not assume a rise in inequality to be inevitable.

³ Deininger and Squire note (1998:279) the failure to find the Kuznets curve relationship overall does not mean it does not exist for individual countries: In 4 countries of their 49 country sample the Kuznets hypothesis was supported.

At the same time the share of GNI of the richest decile rises as one moves from the LICs to LMICs without India. The share of the rich then drastically rises as one moves from considering LMICs without India to the UMICs without China (see also later discussion).

This and the ‘capture’ of about half of GNI in the middle deciles (decile 5–decile 9) in LICs, LMICs and UMICs corroborates Palma’s (2011) ‘homogeneous middles, heterogeneous tails’ thesis (see below) that the middle classes always capture half of GNI and politics is about the contest between the rich and the poor for the rest.

Table 3.1 Estimates of inequality, 2008, nearest available data (population weighted)

	LICs	LMICs minus India	UMICs minus China	All LMICs	All UMICs
GNI to poorest 20% (%)	7.9	7.3	4.9	8.0	4.9
Poorest 4 deciles (D1–D4)	19.5	18.4	13.9	19.6	14.5
Middle 5 deciles (D9–D5)	51.1	51.2	49.8	51.1	51.8
Richest decile (D10)	29.4	30.4	36.3	29.3	33.7

Source: Data processed from PovcalNet (World Bank, 2012).

In the top 20 countries where 90 per cent of the world’s poor live (see Sumner 2012b), only 15 of those 20 countries have two data points (see table 3.2). In those countries, the share of GNI to the poorest four deciles is, in general, static or declining when 1990 and 2008 are compared (using nearest available survey data).

However, five of the 15 countries are experiencing an increased share of GNI to the poorest 40 per cent by more than 2 percentage points (Pakistan, Kenya, Uganda, Ethiopia, Brazil and Nepal). In parallel, the share of the richest decile is static or rising in most countries, with more or less the same set of exceptions – Pakistan, Kenya, Ethiopia, Brazil and Nepal.

Palma (2011) noted that the share of GNI to those who are neither extremely poor (which he defines as the poorest four expenditure deciles), nor rich (defined as the richest expenditure decile), is surprisingly similar, at about 50 per cent of GNI, regardless of where (and when) one looks at the distribution data (see table 3.3).

In short, there is a remarkable capture of half of GNI by those deciles between the poor and the rich. This suggests that, as Palma (2011) argues, domestic politics is about a contest for the remaining 50 per cent of GNI between the very rich and the very poor.

Table 3.2 Top 20 poor countries (by total number of \$1.25 poor people) and inequality data, 1990 vs. 2008 (nearest available data)

	Richest decile (D10)		Middle 5 deciles (D5–D9)		Poorest 4 deciles (D1–D4)	
	1990	2008	1990	2008	1990	2008
India	27.0	28.3	51.6	50.9	21.4	20.9
China	25.3	32.0	54.5	53.2	20.2	14.8
Nigeria	31.5	38.2	55.7	49.1	12.8	12.7
Bangladesh	23.2	27.0	53.5	51.7	23.3	21.3
DRC	n/a	34.7	n/a	50.6	n/a	14.7
Indonesia	24.7	28.5	52.7	51.1	22.6	20.4
Pakistan	27.1	26.1	52.6	51.4	20.3	22.5
Tanzania	26.6	29.6	53.8	52.5	19.6	17.9
Philippines	34.7	33.6	50.1	51.0	15.2	15.4
Kenya	47.9	38.0	42.0	48.5	10.1	13.5
Vietnam	29.0	28.2	51.8	52.9	19.2	18.9
Uganda	33.7	36.1	52.1	48.4	14.2	15.5
Madagascar	36.9	34.7	48.7	50.4	14.4	14.9
Mozambique	n/a	36.7	n/a	48.6	n/a	14.7
Ethiopia	33.8	25.6	48.1	51.9	18.0	22.5
Brazil	48.4	42.9	44.2	47.1	7.5	10.0
Angola	n/a	44.7	n/a	47.6	n/a	7.7
Malawi	n/a	31.9	n/a	50.4	n/a	17.8
Nepal	29.1	26.5	51.3	53.1	19.6	20.4
Sudan	n/a	26.7	n/a	54.8	n/a	18.5

Source: Data processed from PovcalNet (World Bank, 2012). Note: All data are derived from consumption surveys, with exception of China and Brazil which are derived from income surveys (see Appendix 1, table A1).

Palma (2011) argued that, in light of the observation that the share of GNI of those people in deciles D5–D9 is generally half of national income, the ‘middle classes’ should be renamed the ‘median classes’:

Basically, it seems that a schoolteacher, a junior or mid-level civil servant, a young professional (other than economics graduates working in financial markets), a skilled worker, middle-manager or a taxi driver who owns his or her own car, all tend to earn the same income across the world — as long as their incomes are normalized by the income per capita of the respective country. (Palma 2011: 102)

It is worth remembering, as noted above, that the amount of redistribution required to end extreme (\$1.25/day) poverty can be quite low in some middle-income countries. Ravallion (2010) has argued that most countries with an average per capita PPP income of over \$4,000 would require very small additional taxation to end poverty.⁴ Ravallion (2010) estimated the necessary marginal tax rates (MTRs) on the ‘rich’ (those earning more than \$13/day) in order to end poverty in each country. He argues that MTRs over 60 per cent would be prohibitive. Ravallion’s data suggests

⁴ Palma (2011) notes that Brazil’s *Bolsa Familia*, which distributes US\$50/month to 11 million families, costs about 0.5 per cent of GDP (in 2005); and Soares *et al.* (2011) find that conditional cash transfers in Brazil, Mexico and Chile have cost less than 1 per cent of GDP.

that the MTRs necessary to end poverty are high in many of the 'new MICs' (in contrast, many 'old' MICs would require MTRs of under 10 per cent to end poverty). This is particularly due to large populations of poor relative to the number of 'rich' people in many new MICs.

Table 3.3 Estimates of share of GNI, expenditures and population, D5–D9, 1990 and 2008 (nearest available data, population weighted)

	GNI Average share (%)	
	1990	2008
D10 (richest 10%)		
All developing countries	27.6	31.0
LMICs (current group)	24.8	29.3
LMICs (current group) minus India	28.2	30.4
UMICs (current group)	28.2	33.7
UMICs (current group) minus China	35.0	36.3
New MICs	30.6	31.0
D5–D9 (middle 50%)		
All developing countries	51.9	50.8
LMICs (current group)	52.2	51.1
LMICs (current group) minus India	52.8	51.2
UMICs (current group)	53.3	51.8
UMICs (current group) minus China	50.5	49.8
New MICs	50.9	50.4
D1–D4 (poorest 40%)		
All developing countries	19.1	17.1
LMICs (current group)	20.3	19.6
LMICs (current group) minus India	19.0	18.4
UMICs (current group)	18.5	14.5
UMICs (current group) minus China	14.5	13.9
New MICs	18.5	18.6

Source: Data processed from PovcalNet (World Bank, 2012).

If the scope for domestic taxes is insufficient, access to aid may still be important in middle-income countries, for the near future at least. Further, Cardenas *et al.* (2011: 19) are sceptical of tax rises for the middle classes based on the attitudes expressed in the World Values Survey for Peru:

the status quo in many Latin American countries is a very low level of income taxation for the middle classes. Given their attitudes and political say, it is very unlikely that the expansion of the middle class will result in greater levels of personal income taxation. This is the main difference in tax structures compared to the developed world.

OECD (2011a) discusses in some considerable detail middle class preferences for the amount of income redistribution via fiscal policy notably what middle class

households gain and the quality of public services.⁵ Other factors that determine preferences to redistribution are noted from the literature, including: personal experiences of social mobility (Piketty 1995), national and regional cultural and social values (Alesina and Giuliano 2009), the extent of impacts of (higher) taxation on leisure consumption (Meltzer and Richards 1981), levels of university education (Daude and Melguizo 2010; Torgler 2005), and attitudes to prevailing levels of meritocracy (Alesina and Angeletos 2005). It is also noted that support for redistribution is undermined by low institutional capacity in tax administration, the quality of state services, and pessimistic views over social mobility (Gaviria 2007; Torgler 2005).

In short, the capacity to redistribute and the preferences of the non-poor for redistributive policies may become increasingly important for poverty reduction in middle-income countries. However, if there is little support amongst the more secure middle classes for paying more taxes, such policies will be constrained by political economy factors. This will be made worse if the lower 'middle millions' are only just above extreme poverty.

The number of 'non-poor' people in the world (here meaning those above \$2/day) has risen significantly since 1990, as a proportion of the population and in absolute numbers (see Table 3.4 and Appendix 3). There has been a particularly notable expansion between \$2–\$4/day and \$4–\$10/day. Across all developing countries the proportion of people in the \$2–\$10 group has risen from about a quarter to almost a half. When the data is analysed without China the rise is less pronounced but still significant. The rises are particularly noticeable in the new MIC group, but visible in the data across both LMIC and UMIC groups.

Table 3.4 Estimates of population (% population) by region and expenditure groups, 1990 and 2008

	Less than \$2		\$2–\$4		\$4–\$10	
	1990	2008	1990	2008	1990	2008
LMICs (current group)	73.3	59.1	18.3	27.2	6.7	11.0
UMICs (current group)	58.4	20.3	18.5	26.4	16.0	35.6
China	84.6	29.8	13.4	32.2	1.9	31.0
India	82.6	72.4	14.5	22.2	2.6	4.8
New MICs	78.5	64.9	15.3	25.0	4.8	8.1
LICs (current group)	82.8	74.4	14.1	19.8	2.9	5.1
All developing countries	67.1	43.9	17.2	25.9	10.9	21.1
All developing countries minus China	60.2	48.6	18.7	23.9	14.4	17.9

Source: Data processed from PovcalNet (World Bank, 2012). Note: Data is population weighted.

The actual numbers of people (see data in appendix 3) in the \$2–\$4 range have risen from 700m to 1.4bn, and in the \$4–\$10 range from 400m to 1.1bn, across

⁵ In particular OECD (2011a) addresses what role the middle classes in Latin America play in shaping fiscal policy and redistribution, and the impact of fiscal policies on the middle classes. It notes (pp23, 147) that: 'what middle-sector [middle class] people pay in taxes is close to what they receive in the form of social spending. The middle (decile) in Chile pays on average taxes equivalent to 18.3 per cent of its disposable income, while receiving benefits of 20.6 per cent. Similarly, in Mexico taxes amount to 13.2 per cent of disposable income and benefits are equal to 23.8 per cent. In sum, the net effect of fiscal policy for middle-sector families, while marginally positive, is not large, and they benefit most from in-kind services such as education and health care... [However], if these services are of low quality, the middle sector is more likely to consider itself a loser in the fiscal bargain and less willing to contribute to financing of the public sector.'

developing countries between 1990 and 2008. The rises are less pronounced without China but still entail a near doubling in the number of people in both the \$2–\$4/day and \$4–\$10/day group; so that there are now around 2 billion people under \$2/day globally excluding China, 1bn in the \$2–\$4 range, and 720m in the \$4–\$10 range. The rise in numbers of people is, as noted above, particularly noticeable in the new MIC group but also crosses both LMIC and UMIC groups.

As countries get richer in per capita income, on average individual taxes as a proportion of GDP rise (see Table 3.5). As people's expenditures rise above \$2/day their consumption patterns change, resulting in an increasing exposure to indirect and sales taxes, and perhaps formal (and informal) payments for business licenses (although possibly not income taxes if they are in the informal sector).⁶ This has the potential to change perceptions of the relationship between the state and the individual.

Recent empirical evidence for this is provided by Devarajan *et al.* (2011: 15), who identify that there is a positive relationship, significant at 1 per cent, between the level of tax revenue and the extent of voice and accountability in a country (using Kaufmann governance indicators for voice and accountability); but that there is a threshold at 49 per cent of GDP after which, with excessively high levels of taxation, the relationship is inverted. As the authors note (p15), 'Since the tax-to-GDP ratio in most developing countries is below this level, one can assume that most of them are situated on the rising part of the relationship where increases in the level of taxation are associated with more accountability.' Interestingly, Devarajan *et al.* (2011: 13) also note that governance and education have a strong association even after controlling for various variables.

Table 3.5 shows that, as average income rises, total tax as a proportion of GDP rises; as does individual income tax, corporate tax and tax on goods and services. And at the same time as average income rises, aid is becoming less and less significant as a proportion of GNI in new MICs. There is thus a shift from external funding in the form of aid towards non-aid and domestic sources from taxation; hypothetically, this implies a shift in accountability from state-to-donors to state-to-domestic tax payers (and/or natural resource incomes) (see Brautigam *et al.* 2008; Moore 2007).

Table 3.5 Tax indicators in LICs, LMICs, UMICs, HICs, 2009 or most recent year

	LICs (N = 37)	LMIC (N = 48)	UMIC (N = 41)	HIC OECD (N = 30)
Total government taxes as % GDP				
Mean	13.0	17.7	20.7	35.4
Standard deviation	5.5	7.9	8.2	7.3
Individual income tax as % GDP				
Mean	1.6	1.9	2.3	9.7
Standard deviation	1.4	1.4	1.8	4.9
Corporate income tax as % GDP				
Mean	2.2	2.9	3.4	3.1
Standard deviation	2.2	2.5	2.8	1.8
Taxes on goods and services as % GDP				
Mean	5.0	6.1	7.1	11.2
Standard deviation	3.0	3.1	4.0	3.1

Source: Processed from IMF (2011: 53, 54).

⁶ IMF (2011: 25) estimates average VAT rates at end 2010 as 16 per cent in LICs, 13 per cent in LMICs and 15 per cent in UMICs.

One position to take is that there is little need to worry about the poor in MICs because growth will end poverty in the near future. How reasonable is this argument? Conceptually, the poor in middle-income countries could be disconnected from a country's growth due to spatial inequality or remoteness. The poor may also be relatively voiceless in domestic governance structures and potentially discriminated against in public services and public spending allocations regionally. And intra-country migration may be hindered or constrained by cost and administrative regulations.

One way to explore the question is to estimate poverty in the future by different scenarios in order to assess if poverty in MICs will be easily addressed by growth in those countries which are currently LMICs. This can be done by drawing upon an approach taken by Moss and Leo (2011) and Santos and Sumner (2012, forthcoming) and Karver *et al.* (2012, forthcoming) which involves generating three different growth scenarios as follows:

An optimistic scenario assumes that for 2009–2020 and 2009–2030 average incomes will rise at the average annual growth rate of the Gross Domestic Product PPP pc data in the IMF's World Economic Outlook (WEO) (2012) for the period 2009–2016 (2011–2016 data are projections).

A moderate growth scenario assumes that from 2009 average incomes will grow at an average annual growth rate of the Gross Domestic Product (PPP) per capita for the period 2009–2016, minus 1 per cent on the basis that this is the average error historically observed in IMF growth estimates/projections (as per empirical analysis of Aldenhoff 2007).

A pessimistic growth scenario assumes that from 2009 average incomes will grow at *half* of the average annual growth rate of the Gross Domestic Product (PPP) per capita for the period 2009–2016.

These growth scenarios then generate, for each country, GDP PPP and GNI per capita forecasts for 2020 and 2030. The former, GDP pc PPP can be used to estimate poverty in 2020 and 2030 though the assumption of static inequality must be made, and the latter, GNI pc can be used to estimate country classifications in 2020 and 2030.

By taking the poverty and distribution survey data from PovcalNet (World Bank, 2012), and the 2020 and 2030 population estimates from the UN (medium variant), we can estimate the number of poor people in 2020 and 2030 in each country as well as the poverty gap as a proportion of GDP (PPP\$ constant 2005 international \$).

Two essential caveats must be noted: First, such projections are *an inherently imprecise exercise* that merely illustrates possible future scenarios (See also discussion in Kanbur and Sumner, 2011; Karver *et al.* 2012, forthcoming and Kenny and Williams, 2001). Second, the approach likely over-states poverty reduction in fast growing economies such as lower MICs because it assumes static inequality in countries that are rapidly growing (which the discussion earlier suggest this is questionable and inequality can move both ways).

Even so, the data suggests that the remaining \$1.25 and \$2 poverty in those countries that are currently MICs will remain half of all world poverty in 2020 and 2030 (see table 3.6).

And given that some countries that are currently LICs will move into the LMIC category this suggests the structure of world poverty will remain split between LICs and MICs (see Table 3.6). Geographically, the data suggests poverty will be increasingly focused in Sub-Saharan Africa.

As GDP rises the cost of ending poverty as a proportion of domestic GDP will (likely) fall, and poverty will become increasingly about national distribution, with the potential exception of some countries in sub-Saharan Africa.

Table 3.6 Estimates of the global distribution of poverty in 2020 and 2030 (moderate growth scenario; e = estimate)

	Global distribution of \$1.25 poverty (% world poverty)			Global distribution of \$2 poverty (% world poverty)		
	2008/9	2020e	2030e	2008/9	2020e	2030e
Low income (current group)	25.7	50.3	52.0	20.6	39.7	46.5
Lower middle income (current group)	57.7	44.0	42.9	59.2	54.6	47.5
Upper middle income (current group)	16.7	5.7	5.2	20.2	5.7	6.0
[Estimated remaining LICs]	-	46.7	44.9	-	33.8	35.7
East Asia and Pacific	21.5	3.8	0.8	26.1	7.9	4.0
Eastern Europe and Central Asia	0.2	0.2	0.1	0.4	7.9	0.2
Latin America and the Caribbean	2.9	6.8	7.3	2.9	5.3	6.3
Middle East and North Africa	0.7	1.9	3.1	1.9	2.9	4.0
South Asia	44.3	13.2	4.6	45.6	31.9	16.5
Sub-Saharan Africa	30.5	74.2	84.0	23.2	51.6	68.9

Sources: Data estimates derived by using method of Karver *et al.* (2012, forthcoming) and processed from PovcalNet (World Bank, 2012) and WEO (IMF, 2012), based on static inequality. Note: For method see text.

The projections for 2020 and 2030 show that the number of LICs in 2020 could be in the range of 24 to 30, and in 2030 from 16 to 28 compared to the current 35 LICs (see Table 3.7 and Appendix 4).

For ease of discussion here, and because of its consistency with the IMF's historic overestimation of growth prospects, the moderate scenario is used here in the text (see Appendix 4 for data for all scenarios) and the discussion largely focuses on \$2 poverty, as by 2030 the international poverty line will presumably be adjusted closer to \$2. Further, \$2 is the median poverty line for all developing countries (Chen and Ravallion 2008; 2012). Data for \$1.25 poverty is also presented for comparison.

Table 3.7 Remaining LICs in 2020 and 2030 by three growth scenarios

Scenario	2020			2030		
	Pessimistic	Moderate	Optimistic	Pessimistic	Moderate	Optimistic
Number of LICs	30	27	24	28	20	16

Source: Author's estimates based on data from WDI (World Bank, 2011b) and WEO (IMF, 2012). Note: For method see text. See Appendix 4 for full list of countries by each scenario.

Taking the moderate growth scenario, in 2020, poverty will be largely split as follows: 60 per cent in countries that are currently MICs (in 2010), and 40 per cent in countries which are currently LICs in 2010. In 2030, global poverty will be split more

evenly between countries that are currently LICs and countries that are currently MICs (see Table 3.6 and Appendix 4).

This suggests that even if inequality does not rise, poverty will remain an issue for MICs and of course as noted a number of the countries that are currently LICs will be MICs by then too.

It also suggests the cost to end poverty will be minimal for those countries that are currently LMICs and UMICs as a percentage of GDP (see table 3.8).

Although the cost in those countries that are currently LICs of ending \$2 poverty would be 15 per cent of GDP in 2020, this falls to under 10 per cent of GDP in 2030. This suggests for a small number of countries (20 LICs in this moderate scenario) external support for poverty reduction will remain absolutely essential. However, in those countries that are currently LMICs the cost of ending \$2 poverty will be just 1.2 per cent of GDP in 2020 and 0.6 per cent in 2030 and negligible in those countries that are currently UMICs.

Table 3.8 Estimates of the global poverty gap as % GDP, PPP\$ constant 2005 international \$) by \$1.25 and \$2 poverty line in 2008/9, 2020 and 2030 (moderate growth scenario; e = estimate)

	\$1.25 poverty gap as % GDP			\$2 poverty gap as % GDP		
	2008/9	2020e	2030e	2008/9	2020e	2030e
Low income (current group)	8.4	4.6	3.0	25.4	14.9	9.7
Lower middle income (current group)	1.3	0.3	0.2	5.5	1.2	0.6
Upper middle income (current group)	0.2	0.0	0.0	0.6	0.1	0.0
[Estimated remaining LICs]	-	7.0	7.3	-	21.1	22.2
East Asia and Pacific	0.3	0.0	0.0	1.5	0.1	0.0
Eastern Europe and Central Asia	0.0	0.0	0.0	0.0	0.0	0.0
Latin America and the Caribbean	0.2	0.1	0.1	0.4	0.3	0.3
Middle East and North Africa	0.0	0.0	0.1	0.4	0.3	0.3
South Asia	1.5	0.1	0.0	7.5	0.8	0.2
Sub-Saharan Africa	4.8	3.5	2.6	13.0	10.3	8.0

Sources: Data estimates derived by using method of Karver *et al.* (2012, forthcoming) and processed from PovcalNet (2012) and WEO (IMF, 2012), based on static inequality. Note: For method see text.

The moderate scenario projections suggest global poverty in 2020 and 2030 concentrated in a mix of countries. In 2020, the ten countries with the highest contributions to global poverty are projected to be:

- Those countries that are currently LICs and will remain in LICs in 2020: DRC, Tanzania, Madagascar, Kenya, Malawi and Uganda
- Countries that are currently LMICs and would be LMICs in 2020 too: Nigeria, Pakistan and India
- One country that is currently LIC but projected to be LMIC in 2020: Bangladesh

And in 2030:

- Those countries that are currently LICs and will remain in LICs in 2030: DRC, Madagascar, Malawi, Uganda and Mali.
- Countries that are currently LMICs and would be LMICs in 2030 too: Nigeria and Pakistan
- Two countries that are currently LICs but projected to be LMICs in 2030: Tanzania and Kenya and one country that is currently a LMIC but projected to be a LIC in 2030: Yemen

However, one should remember the caveats noted above - that this endeavour of making projections for income/expenditure poverty is *an inherently imprecise exercise* that merely illustrates possible future scenarios.

In terms of other dimensions of poverty such as education, nutrition and health in particular, historical trends can be used to produce approximations for 2030 with a greater level of reliability (see Karver, Kenny and Sumner, 2012, forthcoming).

4 Conclusions

In 1990, approximately 90 per cent of the world's poor people (by both \$1.25 and \$2 international poverty lines) lived in low-income countries, where the *average PPP per capita income* was barely above the higher international poverty line – and thus addressing 'global poverty' was framed largely around international redistribution via aid. In 2008, 70–80 per cent of the world's poor people (respectively, by the \$1.25 and \$2 international poverty lines) lived in middle-income countries. In the LMIC group, the *average PPP per capita income* for the group was approximately five times the *higher* international poverty line. This raises the question of whether 'global poverty' requires reframing as a national distribution issue in a world of fewer and fewer aid dependent countries, either now or at some point in the foreseeable future.

Absolute income thresholds for country classification mean income growth will always imply a transition of the poor from LICs to MICs unless poverty falls drastically in absolute numbers during the transition. Does it then follow that poverty becomes a domestic issue related to national inequality? It depends on the country and the growth experience. It is likely that different countries are experiencing different trajectories – based on the evolution of population growth, income growth, inequality and the poverty gap. One might suggest that there are two stylised groups of country evident if one considers a matrix of 2 x 2 with 'equitable growth' (here defined as the incomes of the poor rising in line with average income) and the 'poverty gap' as the key variables.

Group 1 countries are those with healthy and relatively equitable growth, and a low poverty gap as a percentage of GDP. In this group, the costs of poverty reduction are within domestic financial capacity.

Group 2 countries are those with more unequal growth and larger poverty gaps; which may attain MIC status in terms of mean income but do not yet have the domestic financial fiscal means to address poverty despite higher average incomes. For Group 1, the issue is one of domestic redistribution.

Group 1 may be largely concentrated in parts of Latin America and East Asia. Group 2 may be largely concentrated in India and sub-Saharan Africa. Looking ahead to 2020 and 2030, as average incomes rise, more and more of the world's poor will live in Group 1 countries, and poverty will increasingly become a matter of national inequality.

This might imply that a fundamental reframing of global poverty is approaching; 'traditional aid' (meaning resource transfer) is of limited relevance, and the core variable to explain global poverty is increasingly national distribution and thus national political economy.

Appendix 1: Data coverage

Table A1 Population coverage of US\$1.25 and US\$2 poverty data by country classifications, 2008 (% population covered, current country classifications)

	2008
LIC	83.5
MICs	98.0
LICs and MICs	96.0
Fragile states (45 countries of OECD, 2011b)	97.2
Least Developed Countries	85.3

Source: Processed from PovcalNet (World Bank, 2012). Note: Consumption surveys used for all countries with the following exceptions for countries with income surveys: Bolivia, Brazil, Chile, China, Colombia, Costa Rica, Croatia, Czech Republic, Dominican Republic, Ecuador, El Salvador, Estonia, Guatemala, Guyana, Honduras, Malaysia, Mexico, Moldova, Rep., Nicaragua, Panama, Paraguay, Poland, Russian Federation, Slovak Republic, Slovenia, Trinidad and Tobago, Turkmenistan, Ukraine, Uruguay, Uzbekistan and Venezuela. OECD (2011b) fragile states = Afghanistan, Angola, Bangladesh, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo, Dem. Rep., Congo, Rep., Côte d'Ivoire, Eritrea, Ethiopia, Georgia, Guinea, Guinea-Bissau, Haiti, Iraq, Kenya, Kiribati Korea, Dem Rep., Lebanon, Liberia, Malawi, Myanmar, Nepal, Niger, Nigeria, Pakistan, Palestinian Adm. Areas, Papua New Guinea, São Tomé and Príncipe, Sierra Leone, Solomon Islands, Somalia Sri Lanka, Sudan, Tajikistan, Timor-Leste, Togo, Uganda, Uzbekistan, Yemen, Rep. and Zimbabwe.

Table A2 Countries with no poverty data

Country	Country Classification	Population (2008)
Afghanistan	Low income	29,021,099
Eritrea	Low income	4,926,877
Korea, Dem. Rep.	Low income	23,818,753
Myanmar	Low income	49,563,019
Somalia	Low income	8,926,326
Zimbabwe	Low income	12,462,879
Kiribati	Lower middle income	96,558
Kosovo	Lower middle income	1,795,000
Marshall Islands	Lower middle income	59,667
Micronesia, Fed. Sts.	Lower middle income	110,414
Mongolia	Lower middle income	2,641,216
Samoa	Lower middle income	178,869
Solomon Islands	Lower middle income	510,672
Tonga	Lower middle income	103,566
Tuvalu	Lower middle income	n/a
Uzbekistan	Lower middle income	27,313,700
Vanuatu	Lower middle income	233,866
American Samoa	Upper middle income	66,107
Antigua and Barbuda	Upper middle income	86,634
Argentina	Upper middle income	39,882,980
Cuba	Upper middle income	11,204,735
Dominica	Upper middle income	73,193
Grenada	Upper middle income	103,538

Lebanon	Upper middle income	4,193,758
Libya	Upper middle income	6,294,181
Mauritius	Upper middle income	1,268,854
Mayotte	Upper middle income	191,187
Palau	Upper middle income	20,279
St. Kitts and Nevis	Upper middle income	49,190
St. Vincent and the Grenadines	Upper middle income	109,117

Source: Processed from PovcalNet (World Bank 2012).

Table A3 Population coverage of country indicators, 2009, (% population of group covered)

	LICs	MICs	FCAS	LDCs	Q1 GDP PPP pc
GNI per capita (Atlas, current US\$)	88.4	100.0	92.3	88.7	91.2
GNI per capita (PPP, current int'l \$)	93.0	99.6	95.8	93.8	95.2
GDP per capita, PPP (constant 2005 international \$)	88.0	99.7	95.8	93.8	95.2
Total reserves in months of imports	63.2	96.0	65.0	48.5	59.8
Net ODA received (% of GNI)	86.8	96.0	92.8	89.5	91.8
Net ODA received (% of gross capital formation)	76.8	94.8	63.2	45.9	57.8
GDP in agriculture (%)	69.2	83.0	67.8	52.6	63.1
Urbanisation (% population)	100.0	100.0	100.0	100.0	100.0
Gross domestic savings as % GDP	95.9	99.3	67.2	51.8	62.4
Agricultural raw materials exports as % merch. Exports	78.2	98.6	54.4	32.9	47.7
Ores and metal exports as % merchandise exports	78.2	98.6	54.4	33.0	47.8

Sources: Data processed from WDI (World Bank, 2011b) and PovCal (World Bank, 2012). Note: FCAS = 45 Fragile and Conflict Affected States of OECD (2011b); LDC = Least Developed Countries Group; Q1 GDP pc PPP = poorest quartile of countries by GDP per capita PPP.

Appendix 2: Correlations of GDP pc PPP and structural indicators

Table A4 GDP pc PPP and Net ODA/Gross capital formation in LICs and LMICs

		GDPpcPPP2005intl\$day	NetODArecAsPercGCF
GDPpcPPP2005intl\$day	Pearson Correlation	1	-,378**
	Sig. (2-tailed)		,002
	N	84	65
NetODArecAsPercGCF	Pearson Correlation	-,378**	1
	Sig. (2-tailed)	,002	
	N	65	67
**. Correlation is significant at the 0.01 level (2-tailed). R2 Quadratic = 0.240 R2 Linear = 0.143			

Source: WDI (World Bank, 2011b). Note: Averages for 2008-2010 used.

Table A5 GDP pc PPP and Net ODA/GNI in LICs and LMICs

		GDPpcPPP2005intl\$day	NetODArecPercGNI
GDPpcPPP2005intl\$day	Pearson Correlation	1	-,362**
	Sig. (2-tailed)		,001
	N	84	83
NetODArecPercGNI	Pearson Correlation	-,362**	1
	Sig. (2-tailed)	,001	
	N	83	87
**. Correlation is significant at the 0.01 level (2-tailed). R2 Quadratic = 0.168 R2 Linear = 0.131			

Source: WDI (World Bank, 2011b). Note: Averages for 2008-2010 used.

Table A6 GDP pc PPP and Agriculture Exports/Exports in LICs and LMICs

		GDPpcPPP2005intl\$day	AgriExpAsPercTotalExp
GDPpcPPP2005intl\$day	Pearson Correlation	1	-,352**
	Sig. (2-tailed)		,006
	N	84	59
AgriExpAsPercTotalExp	Pearson Correlation	-,352**	1
	Sig. (2-tailed)	,006	
	N	59	60
**. Correlation is significant at the 0.01 level (2-tailed). R2 Quadratic = 0.164 R2 Linear = 0.124			

Source: WDI (World Bank, 2011b). Note: Averages for 2008-2010 used.

Table A7 GDP pc PPP and Agriculture value added/GDP in LICs and LMICs

		GDPpcPPP2005intl\$day	AgriVAddAsPercGDP
GDPpcPPP2005intl\$day	Pearson Correlation	1	-,647**
	Sig. (2-tailed)		,000
	N	84	69
AgriVAddAsPercGDP	Pearson Correlation	-,647**	1
	Sig. (2-tailed)	,000	
	N	69	71
**. Correlation is significant at the 0.01 level (2-tailed). R2 Quadratic = 0.478 R2 Linear = 0.419			

Source: WDI (World Bank, 2011b). Note: Averages for 2008-2010 used.

Table A8 GDP pc PPP and Urbanisation in LICs and LMICs

		GDPpcPPP2005intl\$day	UrbanOfTotalPop
GDPpcPPP2005intl\$day	Pearson Correlation	1	,443**
	Sig. (2-tailed)		,000
	N	84	84
UrbanOfTotalPop	Pearson Correlation	,443**	1
	Sig. (2-tailed)	,000	
	N	84	90
**. Correlation is significant at the 0.01 level (2-tailed). R2 Quadratic = 0.201 R2 Linear = 0.196			

Source: WDI (World Bank, 2011b). Note: Averages for 2008-2010 used.

Table A9 GDP pc PPP and Gross Domestic Savings/GDP in LICs and LMICs

		GDPpcPPP2005intl\$day	GDSaveAsPercGDP
GDPpcPPP2005intl\$day	Pearson Correlation	1	,337**
	Sig. (2-tailed)		,006
	N	84	66
GDSaveAsPercGDP	Pearson Correlation	,337**	1
	Sig. (2-tailed)	,006	
	N	66	68
**. Correlation is significant at the 0.01 level (2-tailed). R2 Linear = 0.114 R2 Quadratic = 0.143			

Source: Processed from WDI (World Bank, 2011b). Note: Averages for 2008-2010 used.

Appendix 3: Inequality data

Table A10 Estimates of share of GNI by deciles, 1990 and 2008 (nearest data, population weighted)

	GNI	
	Average share (%)	
	1990	2008
D10		
All developing countries	27.6	31.0
LMICs (current group)	24.8	29.3
LMICs (current group) minus India	28.2	30.4
UMICs (current group)	28.2	33.7
UMICs (current group) minus China	35.0	36.3
New MICs	30.6	31.0
Sub-Saharan Africa	36.3	35.8
East Asia and Pacific	26.2	31.4
South Asia	26.6	27.9
Latin America and Carib.	37.2	39.5
D7–D9		
All developing countries	36.2	36.0
LMICs (current group)	36.2	35.5
LMICs (current group) minus India	37.0	36.0
UMICs (current group)	37.6	37.4
UMICs (current group) minus China	36.6	36.2
New MICs	35.8	35.2
Sub-Saharan Africa	37.1	35.5
East Asia and Pacific	37.6	37.6
South Asia	35.5	35.2
Latin America and Carib.	36.8	34.9
D5–D6		
All developing countries	15.6	14.9
LMICs (current group)	16.0	15.5
LMICs (current group) minus India	15.8	15.2
UMICs (current group)	15.7	14.4
UMICs (current group) minus China	13.9	13.6
New MICs	15.1	15.1
Sub-Saharan Africa	13.4	13.7
East Asia and Pacific	16.2	15.0
South Asia	16.4	15.9
Latin America and Carib.	13.5	12.4
D1–D4		
All developing countries	19.1	17.1
LMICs (current group)	20.3	19.6
LMICs (current group) minus India	19.0	18.4
UMICs (current group)	18.5	14.5
UMICs (current group) minus China	14.5	13.9
New MICs	18.5	18.6
Sub-Saharan Africa	13.3	15.0
East Asia and Pacific	20.0	15.9
South Asia	21.5	21.0
Latin America and Carib.	12.4	11.1

Source: Data processed from PovcalNet (World Bank, 2012).

Table A11 Estimates of population (millions and % population) by region and expenditure groups, 1990 and 2008

	Less than \$2		\$2–\$4		\$4–\$10		\$10–\$20		\$20+	
	1990	2008	1990	2008	1990	2008	1990	2008	1990	2008
Millions of people by expenditure category										
Sub-Saharan Africa	369.4	547.5	76.2	163.5	31.4	62.7	6.0	11.8	2.7	6.1
East Asia and Pacific	1,242.8	614.3	226.7	605.0	55.6	506.9	8.0	100.6	2.4	25.5
South Asia	928.6	1,074.7	151.2	352.2	27.2	78.4	2.6	8.7	0.3	2.0
Latin America/Caribbean	80.1	67.4	69.7	102.2	81.4	198.6	29.2	95.2	16.6	51.3
China	960.6	394.3	152.2	426.8	21.2	410.0	0.9	76.4	0.2	17.1
India	701.7	825.1	123.3	252.8	22.0	54.5	2.2	6.0	0.3	1.5
LMICs (current group)	1,256.7	1,394.5	314.2	641.0	114.3	260.3	23.2	51.4	5.2	11.8
UMICs (current group)	1,089.8	476.6	345.5	621.0	298.2	838.3	97.8	294.3	36.4	122.6
New MICs	1,132.7	1,266.4	220.2	487.7	68.8	158.8	16.9	33.0	3.5	6.2
All developing countries	2,696.3	2,357.4	690.7	1,391.4	436.8	1,132.0	143.9	349.4	49.2	135.0
All developing countries minus China	1,735.8	1,963.0	538.5	964.6	415.6	722.0	143.0	272.9	49.0	117.9
% of population by expenditure category										
Sub-Saharan Africa	76.1	69.2	15.7	20.7	6.5	7.9	1.2	1.5	0.6	0.8
East Asia and Pacific	80.9	33.2	14.8	32.7	3.6	27.4	0.5	5.4	0.2	1.4
South Asia	83.7	70.9	13.6	23.2	2.5	5.2	0.2	0.6	0.0	0.1
Latin America/Caribbean	28.9	13.1	25.2	19.9	29.4	38.6	10.6	18.5	6.0	10.0
China	84.6	29.8	13.4	32.2	1.9	31.0	0.1	5.8	0.0	1.3
India	82.6	72.4	14.5	22.2	2.6	4.8	0.3	0.5	0.0	0.1
LMICs (current group)	73.3	59.1	18.3	27.2	6.7	11.0	1.4	2.2	0.3	0.5
UMICs (current group)	58.4	20.3	18.5	26.4	16.0	35.6	5.2	12.5	1.9	5.2
New MICs	78.5	64.9	15.3	25.0	4.8	8.1	1.2	1.7	0.2	0.3
All developing countries	67.1	43.9	17.2	25.9	10.9	21.1	3.6	6.5	1.2	2.5
All developing countries minus China	60.2	48.6	18.7	23.9	14.4	17.9	5.0	6.8	1.7	2.9

Source: Data processed from PovcalNet (World Bank, 2012).

Appendix 4: Projections for 2020 and 2030

Table A12 Remaining LICs in 2020 and 2030 by three growth scenarios

2020			2030		
<i>Pessimistic scenario</i>	<i>Moderate scenario</i>	<i>Optimistic scenario</i>	<i>Pessimistic scenario</i>	<i>Moderate scenario</i>	<i>Optimistic scenario</i>
Bangladesh	Benin	Benin	Benin	Benin	Burundi
Benin	Burkina Faso	Burkina Faso	Burkina Faso	Burkina Faso	Central African Republic
Burkina Faso	Burundi	Burundi	Burundi	Burundi	Comoros
Burundi	Central African Republic	Central African Republic	Central African Republic	Central African Republic	Congo, Dem. Rep.
Cambodia	Chad	Chad	Chad	Chad	Ethiopia
Central African Republic	Comoros	Comoros	Comoros	Comoros	Gambia, The
Chad	Congo, Dem. Rep.	Congo, Dem. Rep.	Congo, Dem. Rep.	Congo, Dem. Rep.	Guinea-Bissau
Comoros	Ethiopia	Ethiopia	Côte d'Ivoire	Ethiopia	Guinea
Congo, Dem. Rep.	Gambia, The	Gambia, The	Ethiopia	Gambia, The	Liberia
Ethiopia	Guinea-Bissau	Guinea-Bissau	Gambia, The	Guinea-Bissau	Madagascar
Gambia, The	Guinea	Guinea	Guinea-Bissau	Guinea	Malawi
Guinea-Bissau	Haiti	Haiti	Guinea	Liberia	Mali
Guinea	Kenya	Liberia	Haiti	Madagascar	Nepal
Haiti	Liberia	Madagascar	Kenya	Malawi	Niger
Kenya	Madagascar	Malawi	Liberia	Mali	Togo
Kyrgyz Republic	Malawi	Mali	Madagascar	Nepal	Uganda
Liberia	Mali	Mozambique	Malawi	Niger	
Madagascar	Mozambique	Nepal	Mali	Togo	
Malawi	Nepal	Niger	Mozambique	Uganda	
Mali	Niger	Rwanda	Nepal	Yemen, Rep.	
Mozambique	Rwanda	Sierra Leone	Niger		
Nepal	Sierra Leone	Tanzania	Rwanda		
Niger	Tajikistan	Togo	Sierra Leone		
Rwanda	Tanzania	Uganda	Tajikistan		
Sierra Leone	Togo		Tanzania		
Tajikistan	Uganda		Togo		
Tanzania	Yemen, Rep.		Uganda		
Togo			Yemen, Rep.		
Uganda					
Yemen, Rep.					

Source: Data processed from WDI (World Bank, 2012) and WEO (IMF, 2012). Note: See text for method.

Table A13 Estimates of the total poverty gap at \$1.25 as a % GDP in 2020 and 2030 (based on total poverty gap and GDP in 2020 and 2030 using 2005 constant PPP\$)

	2020			2030		
Scenario	Pessimistic	Moderate	Optimistic	Pessimistic	Moderate	Optimistic
Low income (2011 group)	8.0	4.6	3.5	8.2	3.0	1.7
Lower middle income (2011 group)	0.6	0.3	0.2	0.5	0.2	0.1
Upper middle income (2011 group)	0.0	0.0	0.0	0.0	0.0	0.0
[Remaining LICs in 2020/2030]	7.7	7.0	6.3	12.9	7.3	5.1

Sources: Data estimates derived be using method of Karver *et al.* (2012, forthcoming) and processed from PovcalNet (World Bank, 2012) and WEO (IMF, 2012) based on static inequality.

Table A14 Estimates of the total poverty gap at \$2 as a % GDP in 2020 and 2030 (based on total poverty gap and GDP in 2020 and 2030 using 2005 constant PPP\$)

	2020			2030		
Scenario	Pessimistic	Moderate	Optimistic	Pessimistic	Moderate	Optimistic
Low income (2011 group)	24.5	14.9	11.6	24.7	9.7	5.8
Lower middle income (2011 group)	2.7	1.2	0.9	1.9	0.6	0.3
Upper middle income (2011 group)	0.1	0.1	0.0	0.1	0.0	0.0
[Remaining LICs in 2020/2030]	23.7	21.1	19.3	36.8	22.2	15.7

Sources: Data estimates derived be using method of Karver *et al.* (2012, forthcoming) and processed from PovcalNet (World Bank, 2012) and WEO (IMF, 2012) based on static inequality.

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